



**SECOND  
FIVE-YEAR REVIEW REPORT  
BEULAH LANDFILL  
SUPERFUND SITE  
PENSACOLA,  
ESCAMBIA COUNTY, FLORIDA  
EPA ID: FLD980494660**



Prepared for

U.S. Environmental Protection Agency  
Region 4  
Atlanta Federal Center  
61 Forsyth Street, SW  
Atlanta, GA 30303

September 24, 2003



U.S. Army Corps of Engineers  
Mobile District  
109 Saint Joseph Street  
Mobile, Alabama 36602

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FOR  
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FORMER SUPERFUND SITE  
PENSACOLA,  
ESCAMBIA COUNTY, FLORIDA  
EPA ID: FLD980494660**

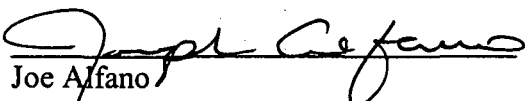
September 24, 2003

Prepared By:

U.S. Army Corps of Engineers  
Mobile District  
109 Saint Joseph Street  
Mobile, Alabama 36602

Approved by:

Date:

  
Joe Alfano  
U.S. EPA, Region 4

9/24/03

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## LIST OF ACRONYMS, SYMBOLS, AND ABBREVIATIONS

ARARs	Applicable or Relevant and Appropriate Requirements
BRA	Baseline Risk Assessment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
C&D	Construction & Demolition
ECDSW	Escambia County Department of Solid Waste Management
EPA	Environmental Protection Agency
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Management
NCP	National Contingency Plan
NGVD	National Geodetic Vertical Datum
NPL	National Priorities List
O&M	Operation & Maintenance
PAH	Polynuclear Aromatic Hydrocarbons
PCP	Pentachlorophenol
PCBs	Polychlorinated Byphenyls
PRP	Potentially Responsible Parties
RA	Risk Assessment
RAO	Remedial Action Objective
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
TCL/TAL	Target Compound List/Target Analyte List
TCE	Trichloroethene
USACE	U.S. Army Corps of Engineers

## EXECUTIVE SUMMARY

The Record of Decision for Beulah Landfill was signed in September 1993. The selected remedy was a "no action" with closure of the landfill in accordance with Florida Department of Environmental Management requirements in conjunction with continued groundwater and surface water monitoring to ensure protectiveness. The site was delisted from the National Priorities List in 1998. Semi-annual monitoring has been performed since 1994.

This is the second five-year review for the Beulah Landfill. EPA has determined that the results of this review indicate the selected remedy is protective and poses no unacceptable risk to human health and the environment. Remediation measures are being addressed by the PRP and the regulatory agency (FDEP). Groundwater and surface water monitoring as detailed in the closure permit is continuing as required by the closure permit. The next five-year review is due September 2008, but EPA is requesting that in one year Escambia County report to EPA the progress made toward meeting FDEP closure permit requirements.

## FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION	
Site name (from WasteLAN): Beulah Landfill Superfund Site	
EPA ID (from WasteLAN): FLD980494660	
Region: 4	State: FLA City/County: Pensacola/Escambia County
SITE STATUS	
NPL status: <input type="checkbox"/> Final <input checked="" type="checkbox"/> Deleted <input type="checkbox"/> Other (specify)	
Remediation status (choose all that apply): <input type="checkbox"/> Under Construction <input checked="" type="checkbox"/> Operating <input type="checkbox"/> Complete	
Multiple OUs? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Construction completion date: NA
Has site been put into reuse? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
REVIEW STATUS	
Lead agency: <input checked="" type="checkbox"/> EPA <input type="checkbox"/> State <input type="checkbox"/> Tribe <input type="checkbox"/> Other Federal Agency	
Author name: Rhonda Capes, P.G.	
Author title: Geologist	Author affiliation: U.S. Army Corps of Engineers
Review period: April 1, 2003 to September 2, 2003	
Date(s) of site inspection: August 5, 2003	
Type of review: <input checked="" type="checkbox"/> Post-SARA <input type="checkbox"/> Pre-SARA <input type="checkbox"/> NPL-Removal only <input type="checkbox"/> Non-NPL Remedial Action Site <input type="checkbox"/> NPL State/Tribe-lead <input type="checkbox"/> Regional Discretion	
Review number: <input type="checkbox"/> (first) <input checked="" type="checkbox"/> (second) <input type="checkbox"/> (third) <input type="checkbox"/> Other (specify)	
Triggering action: <input type="checkbox"/> Actual RA On-site Construction at OU #____ <input type="checkbox"/> Actual RA Start at OU# NA <input type="checkbox"/> Construction Completion <input checked="" type="checkbox"/> Previous Five-Year Review Report <input type="checkbox"/> Other (specify)	
Triggering action date (from WasteLAN): September 16, 1998	
Due date (five years after triggering action date): September 16, 2003	

\* ["OU" refers to operable unit.]

\*\* [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]



### Five-Year Review Summary Form, cont'd.

**Issues:**

1. Installation of perimeter fencing, where applicable, has not been completed.
2. MW-6 is not secured with a lock.
3. Groundwater contamination remains in excess of FDEP compliance standards.

**Recommendations and Follow-up Actions:**

1. The PRP should complete the perimeter fencing and place appropriate signage as soon as possible.
2. The PRP should perform an inventory of the existing monitor wells and replace any locks where necessary.
3. The PRP should submit a plan to FDEP providing the proposed remedial actions to address the contamination indicated in the southern portion of the landfill.

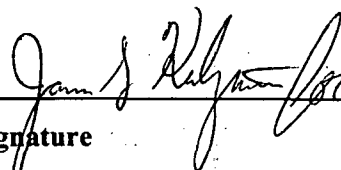
**Protectiveness Statement:**

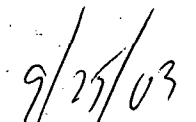
1. According to the data reviewed, site inspection, and interviews, the remedy at Beulah Landfill is protective of the environment.

**Other Comments:**

1. No new groundwater contaminants have been discovered at the site since the Baseline Risk Assessment. Groundwater contamination is closely monitored and evaluated by FDEP and response actions taken when necessary.

**Signature of Division Director and Date**

  
\_\_\_\_\_  
Signature

  
\_\_\_\_\_  
Date

**Winston A. Smith**  
**Waste Division Director**

**BEULAH LANDFILL SITE  
PENSACOLA, FLORIDA  
SECOND FIVE-YEAR REVIEW REPORT**

**I. INTRODUCTION**

The purpose of the five-year review is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in Five-Year Review reports. In addition, Five-Year Review reports identify issues found during the review, if any, and identify recommendations to address them.

The Agency is preparing this Five-Year Review report pursuant to CERCLA §121 and the National Contingency Plan (NCP). CERCLA §121 states:

*If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

The Agency interpreted this requirement further in the NCP; 40 CFR §300.430(f)(4)(ii) states:

*If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

The Record-of-Decision for Beulah Landfill was signed in September 1993 and endorsed a "no action" remedy in conjunction with closure of the landfill in accordance with Chapter 62-701, Florida Administrative Code (FAC). The ROD further specified that groundwater monitoring would continue to ensure that the "no action" remedy remained protective of human health and environment.

This is the second five-year review for Beulah Landfill since implementation of the ROD. The triggering action for this statutory review is the first five-year review that was completed on September 16, 1998. The U.S. Army Corps of Engineers, Mobile District, conducted this second five-year review during the period April 1, 2003 to September 1, 2003. This report documents the results of the review.

## II. SITE CHRONOLOGY

Table 1 presents the chronology of events for the Beulah Landfill Site

**Table 1**  
**Chronology of Site Events**

<b>EVENT</b>	<b>DATE</b>
Disposal of solid waste begins	1966
Disposal of domestic waste and wastewater treatment sludges begins	1968
EPA Initial Investigation	September 1980
Sludge disposal ceases	1984
EPA lists Beulah Landfill on the Superfund National Priorities List	March 1990
Florida Department of Health and Rehabilitative Services Preliminary Health Assessment	May 1990
Installation of three additional groundwater monitor wells for site characterization	1992
Remedial Investigation	July 1993
EPA Baseline Risk Assessment	1993
ROD signed by EPA (No Action)	September 1993
FDEP Permit for Closure of the Beulah Landfill	July 1994
Semi-Annual Groundwater Monitoring begins pursuant to landfill closure regulations	1994
Revision to Site Closure Plan approved by FDEP	1997
U.S. Department of Health and Human Services Site Review and Update	September 1997
Beulah Landfill Superfund Site deleted from NPL	June 1998
First Five-Year Review	September 16, 1998
Completion of Beulah Landfill closure	1999
EPA allows use of the northern portion of Beulah Landfill for recreation purposes	April 2002
Preliminary groundwater assessment performed for former construction & demolition materials landfill	June 2002
FDEP requires submittal of Remedial Action Plan	August 30, 2002

### **III. BACKGROUND**

The following subsections present background information for the Beulah Landfill site including physical characteristics, land and resource use, history of contamination, initial response, and the basis for taking action.

#### **PHYSICAL CHARACTERISTICS**

The Beulah Landfill site is topographically located at Latitude 30°N30'57" and Longitude 87°W20'31 in southwestern Escambia County, Florida. Geographically, Beulah Landfill is located approximately 10 miles northwest of Pensacola, Florida, and north on Jamesville Road from US Highway 90 at a point five miles southeast of its intersection with Nine Mile Road (Figure 1).

The Beulah Landfill comprises approximately 101 acres and is divided into a northern portion and a southern portion by a natural barrier (Coffee Creek). Coffee Creek discharges into Elevenmile Creek which forms a natural boundary on the eastern edge of the landfill (Figure 2). Elevenmile Creek is the receiving stream of approximately 24 million gallons per day wastewater discharge from the International Paper Company Cantonment Plant located approximately 6 miles upgradient. Elevenmile Creek discharges into Perdido Bay, a saltwater bay connected to the Gulf of Mexico by Perdido Pass.

Site closure of the site was officially completed in 1999 by placing a clay cap on the northern portion and installing a High Density Polyethylene (HDPE) synthetic cover on the southern portion. Currently the surface of the site is covered with grass and is relatively flat with the exception of low berms around the perimeter and multiple stormwater diversion flumes. Steeper slopes exist near the edges of the creeks and near a small stormwater retention pond located in the northwest corner of the landfill.

#### **LAND AND RESOURCE USE**

Beulah Landfill is surrounded by sparse piney woods to the east, north, and west and remains basically undeveloped at this time. International Paper Company (IPC) owns a majority of the surrounding property and has recently harvested pine trees along the northwestern boundary of the site. IPC also owns the land adjacent to the southern property line.

Several residences are located adjacent to the southeastern corner of the site and on Jamesville Road. Other than these few residences, the area is sparsely populated. The nearest residential community is located less than 1 mile northeast of the site. At the time of this review, there are no known plans for increased residential or commercial development.

IPC operates under a temporary permit allowing discharge of industrial effluent into Elevenmile Creek. Plans are currently underway for construction of an effluent pipeline that will parallel the western side of Beulah Landfill and traverse along the southern boundary. Escambia County

Department of Solid Waste (ECDSW) is in communication with IPC regarding these construction plans.

The underlying groundwater aquifer at the site is the Sand-and-Gravel Aquifer. The surficial zone of this aquifer is primarily composed of fine silt, clay, and sand. In the northern half of the site, groundwater enters from the west, flows east and southeast discharging into Elevenmile Creek and Coffee Creek. Groundwater in the southern half of the landfill enters from the southwest margin and follows the same direction discharging to the creeks. The surficial zone of the Sand-and-Gravel Aquifer is not typically used as a source for potable water. Residences along Jamesville Road are connected to the municipal water supply system.

## **HISTORY OF CONTAMINATION**

Beulah Landfill was operated as a municipal landfill between the years 1966 to 1984. The northern portion of the site received only solid wastes whereas the southern portion received solid wastes, domestic septage, and wastewater treatment sludges. Waste depths in the northern portion ranged from 4 to 10 feet in the northwest section, increasing to about 25 feet in the northeast section. Wastes in this area were covered with native soils and then planted with pine trees.

The southern half of the site was a sand borrow pit prior to 1965. Solid wastes were initially deposited into the southwest corner of the borrow pit to depths of 15 to 20 feet. In 1968, the first domestic septage and wastewater treatment sludges were deposited in a 10-acre excavated and bermed area at the southwest corner of the site. Sludge deposition continued in the southern half until all landfill operations ceased in June 1984. A soil cover was not placed on the sludge after deposition ceased.

As mentioned above, the southern portion of Beulah Landfill was capped with a HDPE cover. During the final stages of this closure, Gallet & Associates participated in the installation of a landfill gas monitoring system around the perimeter of the southern portion of the site. According to Gallet & Associates, installation of the gas wells could not be completed due to the presence of construction & demolition (C&D) material beneath the surface. Gallet & Associates also reported that ECDSW had formerly operated a C&D disposal facility in this area, and that wastes were managed such that only C&D material was accepted.

## **INITIAL RESPONSE**

In 1982, a site investigation was performed for the Beulah Landfill by Ecology and Environment, Inc., followed by a Preliminary Assessment performed by the EPA in 1985. Results of the investigations indicated contaminants in the soil and groundwater in excess of current regulatory standards. In 1990, the Beulah Landfill was placed on the National Priorities List (NPL).

In 1990, the EPA performed a search for Potentially Responsible Parties (PRPs) and on September 16, 1991 signed an Administrative Order with the PRP to perform a Remedial Investigation/Feasibility Study (RI/FS).

The RI was performed by the PRP's contractor (Engineering Science, Inc.) and was streamlined in order to characterize the site's "hot spots" and provide information to be used in the EPA's Baseline Risk Assessment (BRA). All media sampled were analyzed for Target Compound List/Target Analyte List (TCL/TAL) including Pesticides and Polychlorinated Byphenyls (PCBs).

## **BASIS FOR TAKING ACTION**

### **Contaminants**

A range of organic and inorganic contaminants were found in all media sampled at the site. Groundwater contamination exceeding maximum contaminant levels (MCLs) was limited to benzene, naphthalene, and pentachlorophenol (PCP). PCP occurred in one of the on-site wells at concentrations of 120-130 parts-per-billion (ppb). The maximum contaminant level for PCP was 1 ppb, therefore PCP was listed as a contaminant of concern for Beulah Landfill.

The primary contaminants of concern identified in soils and sludges were polynuclear aromatic hydrocarbons (PAHs), pesticides, PCP and metals including aluminum, zinc, iron, lead, chromium, nickel, and zinc.

### **Risk Assessment**

The BRA provided the basis for taking action and outlined the exposure pathways that needed to be addressed in the Risk Assessment (RA). The BRA served as the baseline for indicating risks that could exist if no action was taken at the site. It was determined that there were no known complete exposure pathways at the site, therefore, a trespasser scenario was developed as the most likely future human health exposure pathway. The total risk based on trespasser exposure was within the EPA's acceptable risk range.

The risk to the environment was determined through the assessment of potential adverse effects to ecosystems and population resulting from site related contamination. The main pathways or media of ecological concern were surface soil, surface water, and sediments. Although elevated levels of contaminants were found in the surface water and sediments of a swale area, the swale area was not considered to be an aquatic habitat since it also contained periodic rainfall. Cyanide was the only contaminant of concern associated with either Coffee or Elevenmile Creeks that could pose a threat to aquatic communities. Sediment concentrations were also found to be within acceptable ranges. It was determined from the RA evaluation that actual or threatened releases of hazardous substances for the site did not pose an imminent danger to the environment.

## **IV. REMEDIAL ACTIONS**

The following subsections present the remedial actions for the Beulah Landfill site including remedy selection, remedy implementation, and operation and maintenance.

## REMEDY SELECTION

The Record of Decision (ROD) was signed on September 16, 1993 and was developed in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980. The State of Florida, specifically the Florida Department of Environmental Protection (FDEP) was the support agency during the Remedial Investigation, with input to the ROD and participation in remedy selection.

As stated in the ROD, "the BRA and the comparison of exposure concentrations to chemical-specific standards indicated that there is no unacceptable risk to human health or the environment at the site". The ROD further stated, "the EPA understands that the site will be closed by the State of Florida in accordance with Florida Administrative Code:62-701, Solid Waste Management Facilities".

The selected remedy stipulated that "no action" was necessary for protection of human health or the environment, however, groundwater monitoring would continue in order to ensure this protectiveness. A groundwater and surface water monitoring program was developed as part of the FDEP requirements for closure of a solid waste landfill. A brief summary of FDEP closure specifications regarding the surface water and groundwater monitoring program, as described in the current permit dated June 28, 1999, is provided as follows:

- The monitoring network shall include nine (9) groundwater wells and four (4) surface water sampling points.
- All sampling shall be performed semi-annually with reports following no later than the end of May and November.
- A written report shall be submitted every two years summarizing the water quality and water levels from permit issuance to present.
- Water laboratory analyses shall include all parameters listed in FAC Rule 62-701.510(8)(a) and 62-701.510(8)(b) and pentachlorophenol (PCP) and PAH compounds (EPA Method 610).
- The allowable horizontal zone of discharge (ZOD) for the site shall extend 100 feet for the disposal areas or be the existing property line. The vertical ZOD shall extend from land surface down to minus 18 ft NGVD.
- Compliance with water quality standards of FAC Rule 62-520.420, and as contained in FAC Rules 62-550.310 and 62-550.320, shall be met at and beyond the edges of the ZOD. Within and beyond the edge of the ZOD, compliance with minimum groundwater criteria of FAC Rule 62-520.400 shall be met. Surface water criteria in accordance with FAC Rules 62-302.500, 62-302.510 and 62-302.560, shall be met beyond the ZOD.

CERCLA Section 121 clean-up standards for selection of a Superfund remedy, including the requirement to meet Applicable, Relevant and Appropriate Requirements (ARARs), are not triggered for Beulah Landfill. However, the FDEP has promulgated state closure requirements for municipal and industrial landfills as described above.

## **REMEDY IMPLEMENTATION**

Major components of the ROD include "no action" in conjunction with groundwater and surface water monitoring, and closure of the landfill in accordance FDEP closure permit regulations. The following summary of the remedy implementation is provided in chronological order.

Landfill closure began in 1985 and was interrupted from 1988 to 1993 during the Superfund Investigation. In September of 1993, the ROD was signed and closure procedures were again started. Closure of the Beulah Landfill was completed in 1999.

Closure of the landfill included installation of impermeable caps: a clay cap on the northern portion and a synthetic cap on the southern portion. Closure procedures also included initiation of the groundwater and surface water monitoring program on a semi-annual basis. This monitoring began in 1994 and has continued on a semi-annual basis to the present. Sampling was performed by Escambia County Solid Waste Department. Compilation and review of the data was performed by Gallet & Associates with copies provided to the FDEP for subsequent review and comment.

Additionally, results of the semi-annual monitoring are compiled every two years into a Water Quality Report. The last two-year report is dated November 29, 2002. As stated in the closure permit, water monitoring shall continue for a period of thirty (30) years from issuance of the permit.

The groundwater and surface water monitoring plan consists of sampling at one background well (MW-4), five detection wells (BMW-1R, BMW-3R, MW-7, MW-8, and MW-9), three point of compliance wells (BMW-2, BMW-7, and MW-6), two upstream surface water stations (SW-4UG, SW-6), one intermediate surface water station (SW-7), and a downstream location (SW-3). Two additional monitor wells were installed in November 2001 as part of an additional assessment addressing the former C&D landfill portion of the southern half of Beulah Landfill. These wells are designated as MW-10 and MW-11. All sampling locations are shown on Figure 2.

## **OPERATION AND MAINTENANCE**

Operation and Maintenance (O&M) for the site include, erosion control, grounds maintenance, landfill gas monitoring, repairs, and implementation of the groundwater and surface water monitoring plan as stated in the closure permit. The ECDSW is responsible for developing, funding, and implementing all O&M activities.



ECDSW has provided the following O&M breakdown for maintenance and projected expenditures of the Beulah Landfill for 2003 (Table 2).

**Table 2**  
**Operation and Maintenance Costs**  
**2003**

Item	Description	Annual Cost
Grounds Maintenance	Mowing, Trimming	\$12,000
Groundwater/Surface Water Analysis	Semi-annual groundwater and surface water collection and analysis	\$30,000
Landfill Gas Monitoring and Reporting	Quarterly Monitoring	\$2,500
Maintenance and Repairs	Repairs to Erosion and Stormwater Devices, Seed, Fertilizer, repairs to monitor wells, fences, and gates.	\$5,000
Projects (scheduled or in progress)	Access Control (Perimeter Fencing), Access Gates, and other improvements	\$100,000

## V. PROGRESS SINCE THE LAST FIVE-YEAR REVIEW

Escambia County Department of Public Works, Solid Waste Division prepared the first five-year review. The protectiveness statement from the initial five-year review for the Beulah Landfill site stated the following:

*Escambia County believes that the Site continues to pose no unacceptable risk to human health or the environment. Escambia county has implemented the remedy proposed in the ROD and believes that the selected remedy remains protective of human health and the environment.*

Escambia County listed the following implementation requirements pursuant to the terms of the Closure Permit and FDEP's regulations on closure and post-closure care:

- *Complete construction of a "Subtitle D" landfill cap over the entire volume of waste at the site.*
- *Supplement the existing water quality monitoring network with three new monitor wells and one replacement monitor well.*
- *Continue water quality monitoring and other post-closure care for a minimum of 30 years after completion of the Site closure construction tasks.*

At the time of this second five-year review, ECDSW had completed construction of the landfill caps, installed the additional groundwater monitor wells, and performed quality assurance monitoring as outlined in the closure permit.

## **VI. FIVE-YEAR REVIEW PROCESS**

The second five-year review was conducted by the USACE under guidance from the EPA Remedial Project Manager for the Beulah Landfill site. The five-year review process consisting of administrative components, document review, data review, site inspection, and interviews is described in the following subsections.

### **ADMINISTRATIVE COMPONENTS**

The Beulah Landfill Site Five-Year Review was performed by Rhonda Capes of the USACE. FDEP and Escambia County Solid Waste Department were notified of the initiation of the five-year review. A schedule was established to include document review, data review, site inspection, interviews, and report development.

### **DOCUMENT REVIEW**

This second five-year review consisted of a review of relevant documents including decision documents, semi-annual groundwater and surface water monitoring reports, bi-annual water quality reports, quarterly facility inspection checklists, closure permits, and miscellaneous file correspondence. Attachment 2 provides a list of all documents reviewed for this effort.

### **DATA REVIEW**

Laboratory analytical results for the semi-annual sampling events of 1998 through 2003 were reviewed for compliance with current FDEP groundwater and surface water standards. A compilation of the laboratory analytical results is summarized in table format with Attachment 3. Only the contaminants which have associated primary drinking water standards and which exceeded these standards are included on the table.

In summary, there are 5 locations included in the sampling program that have exhibited concentrations in excess of the current primary drinking water standards during the period of November 1998 to May 2003. These are BMW-1R for the constituent benzene, tetrachloroethene (TCE), vinyl chloride, and pentachlorophenol (PCP); MW-6 for PCP; MW-9 for benzene and PCP; SW-3 for PCP; and SW-6 for PCP.

Analytical history graphs for the monitor wells BMW-1/1R, MW-6 and MW-9 prepared by Galley & Associates are provided with Attachment 3.

## SITE INSPECTION

The site inspection was conducted at 10:30 AM on August 5, 2003. Individuals in attendance included: Rhonda Capes (USACE), Brad Hartshorn (FDEP), Ron Hixson and Sandy Perkins (ECDSW). EPA representative Joe Alfano was not available for the site inspection. The purpose of the inspection was to assess the protectiveness of the remedy. Notes and observations from the site inspection were recorded on the Site Inspection Check List provided in Attachment 4. Several photographs are provided in Attachment 5.

The main entrance into Beulah Landfill was locked and provided with the appropriate signage marked with "no trespassing" and "do not disturb soil". This is the only entrance provided for vehicular traffic and the road was noted to be in good condition. This road continues around the perimeter of the northern half and southern half of the landfill and provides access to the monitor wells and surface water sampling locations.

The surface of the landfill has a good vegetative cover of grass (Photographs 3 and 4), and the berms and drainage flumes are in good condition. No major areas of erosion were noted. Mr. Hixson stated that occasional trespassers with motor bikes have caused minor erosion damage but it is repaired as needed.

Each of the eleven monitor wells at the site was located at the time of the inspection and noted for condition. Monitor wells at the site were all provided with protective steel surface casings, and most with protective steel posts. Each monitor well was provided with a lock with the exception of MW-6 (Photograph 9).

Each surface water sampling location was noted during the inspection as shown on the site diagram (Photographs 6 and 7). No signage was posted to indicate the exact location where surface water samples are collected.

The northern end of the landfill contains a stormwater retention pond which is fenced along its entire perimeter. This pond is occasionally used for recreation purposes, specifically model boat operators. The northern part of Beulah Landfill is also utilized for model aircraft flying. The northern portion of Beulah Landfill was released for recreational purposes in 2002 by the EPA.

The major issue noted during the inspection is the incomplete fencing of the site. As mentioned previously, ESDSW is in negotiations with International Paper Company to acquire property along the southern portion of the landfill. At this time, this area of the property remains unfenced and susceptible to trespassing. It is recommended that the fencing in this area be completed as soon as possible. Elevenmile Creek provides a natural boundary on the east side of the landfill however access is still possible during periods of low rainfall.

## INTERVIEWS

During the five-year review process, several individuals were interviewed concerning the Beulah Landfill site with regard to activities over the last five years. The following individuals were interviewed:

- Mr. Ron Hixson (ECDSW) on August 5, 2003 during the site visit and on August 22, 2003 by telephone.
- Mr. Brad Hartshorn (FDEP) on August 5, 2003 during the site visit and on August 29, 2003 by telephone.
- Mr. Mike Kennedy (FDEP) on August 27, 2003 by telephone.

## VII. TECHNICAL ASSESSMENT

The following Questions A, B, and C were answered to provide a technical assessment of the site remedy.

### **Question A: Is the remedy functioning as intended by the decision documents?**

#### **Remedial Action Performance**

In regards to the physical closure of Beulah Landfill, implementation of the remedy has proceeded as planned. The impermeable covers have been placed on the landfill, monitor wells and gas vents have been installed, and periodic monitoring is being performed as scheduled. Monitoring results are reviewed by FDEP and comments provided when necessary.

In accordance with FDEP standards, Beulah Landfill is not in compliance with current surface water standards, specifically for iron, PCP, benzene, TCE, and vinyl chloride. Beulah Landfill does not have an allowable zone of groundwater mixing, therefore, surface water standards must be met in the downgradient wells. FDEP requested that ECDSW provide a Remedial Action Plan addressing the elevated levels noted in the groundwater by December 31, 2002. At the time of this five-year review, the plan had not been submitted to FDEP.

The groundwater releases do not represent a threat to human health as the surficial aquifer is not typically used as a source for potable water and the residences along Jamesville Road are connected to the municipal water supply. As per the ROD, FDEP, through their closure requirements, is pursuing remediation of the groundwater that may pose a threat to the surface water.

## **System Operations**

The O&M activities for the site are functioning well and as outlined in the closure permit. Periodic groundwater, surface water, and vapor monitoring are being performed and reported accordingly.

## **Opportunities for Optimization**

Opportunities for optimization included in this review are the submittal of a Remedial Action Plan addressing groundwater contamination at BMW-1R, MW-6 and MW-9, and completion of the perimeter fencing.

## **Early Indicators of Potential Issues**

The early indicator of a potential issue that could lead to remedy failure or jeopardize the protectiveness of the remedy is the contamination levels in excess of FDEP standards indicated in the monitor wells.

## **Implementation of Institutional Controls and Other Measures**

The institutional controls in place at the site provide adequate protection. Access control was not complete at the time of this review and damage to the landfill surface by trespassers remains a possibility.

## **Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy still valid?**

### **Changes in Standards and TBCs**

No specific ARAR's were established in the ROD for Beulah Landfill. The remedy included closure of the landfill in accordance with FDEP requirements. The landfill closure was complete in 1999 and groundwater monitoring has been performed accordingly. Groundwater results must be in compliance with Florida Primary and Secondary Standards as defined. No changes have occurred to the standards which effect the protectiveness of the remedy.

### **Changes in Exposure Pathways**

Significant changes have not occurred at the site to affect the exposure pathways. The protectiveness of the remedy is still valid. The contaminants of concern remain the same, as well as the land usage and human usage of resources.

### **Changes in Toxicity and Other Contaminant Characteristics**

Toxicity factors and other characteristics for contaminants of concern have not changed at the site to effect the protectiveness of the remedy.

### **Changes in Risk Assessment Methods**

Standardized risk assessment methodologies have not changed to effect the protectiveness of the remedy.

### **Expected Progress Towards Meeting RAOs**

The site remedy is progressing as expected in regards to closure of the landfill, however, groundwater and surface water are not in compliance with current FDEP levels at this time. Progress with this issue is being addressed by FDEP.

### **Question C: Has any other information come to light that could call into question the protectiveness of the remedy?**

Discovery of the former C&D landfill along the southern edge of the property occurred in 2001 and a subsequent investigation was performed in 2002. Results of this investigation and its impact on the groundwater contamination levels have not been fully addressed at this time. It is anticipated that more information will be provided in the requested Remedial Action Plan.

### **TECHNICAL ASSESSMENT SUMMARY**

According to the data reviewed, site inspection, and interviews, the remedy is functioning as intended by the ROD. There are no threats to human health and remediation of the releases of groundwater contamination above Florida's surface water standards are being pursued by the FDEP under its closure requirements as confirmed by the project manager via a September 9, 2003 telephone conversation with Brad Hartshorn and Mike Kennedy of FDEP.

### **VIII. ISSUES**

1. **Incomplete Perimeter Fencing** – The perimeter fencing should be completed to protect the cap from damage. The trespasser scenario performed during the risk assessment indicated that there was not an unacceptable risk. The risk assessment was conducted before the cap was installed over the landfill, which further reduced the risk from direct exposure. Although the lack of complete perimeter fencing does not represent a threat to human health of the environment, it is recommended that the perimeter fence be completed to protect the cap from damage by trespassers.
2. **Monitoring Wells Not Secured With Locks** – Although it does not represent a risk to human health and the environment, all monitoring wells should be secured with locks to prevent the introduction of foreign substances into the wells and to protect the integrity of the analytical results of the groundwater monitoring program.
3. **Groundwater Contamination in Excess of Florida Standards** – There are Exceedances of Florida's drinking and surface standards in monitoring wells BMW-1R, MW-6, and

MW-9: The groundwater releases do not represent a threat to human health as the surficial aquifer is not typically used as a source for potable water and the residences along Jamesville Road are connected to the municipal water supply. Through their closure requirements, FDEP is pursuing remediation of the groundwater that may pose a threat to surface water.

## IX. RECOMMENDATIONS AND FOLLOW-UP ACTIONS

Table 3 provides recommendations and follow-up actions to address the issues presented in Section VIII.

**Table 3**  
**Recommendations and Follow-Up Actions**

Issue	Recommendations/ Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date
Access Control	Complete perimeter fencing	PRPs	EPA	3/30/04
Monitor well is not secured	Conduct a complete inventory of the existing wells and provide locks where necessary	PRPs	EPA	11/30/03
Groundwater contamination is in excess of standards	Comply with FDEP Closure Permit Requirements	PRPs	EPA	11/30/03

As stated in the closure permit, semi-annual groundwater and surface water monitoring shall continue for a period of thirty years following closure of the landfill.

## X. PROTECTIVENESS STATEMENT

According to the data reviewed, site inspection, and interviews, the remedy at Beulah Landfill is protective of human health and the environment. There are no threats to human health from the lack of perimeter fencing or from groundwater releases. The threat to the surface water from releases of groundwater contamination above Florida's surface water standards is being pursued by the FDEP under its permit closure requirements as intended by the ROD. EPA will monitor FDEP's progress in achieving compliance with its closure requirements. If in one year FDEP fails to achieve compliance, EPA will reevaluate the site and determine what federal action is needed to achieve compliance.

## XI. NEXT REVIEW

The next five-year review for the Beulah Landfill is required by September 2008, five years from the date of this review. One year from the date of this five year review, Escambia County must report to EPA their progress toward achieving compliance with FDEP's closure permit

requirements. EPA will then reevaluate the site and determine if federal action is needed to achieve compliance.

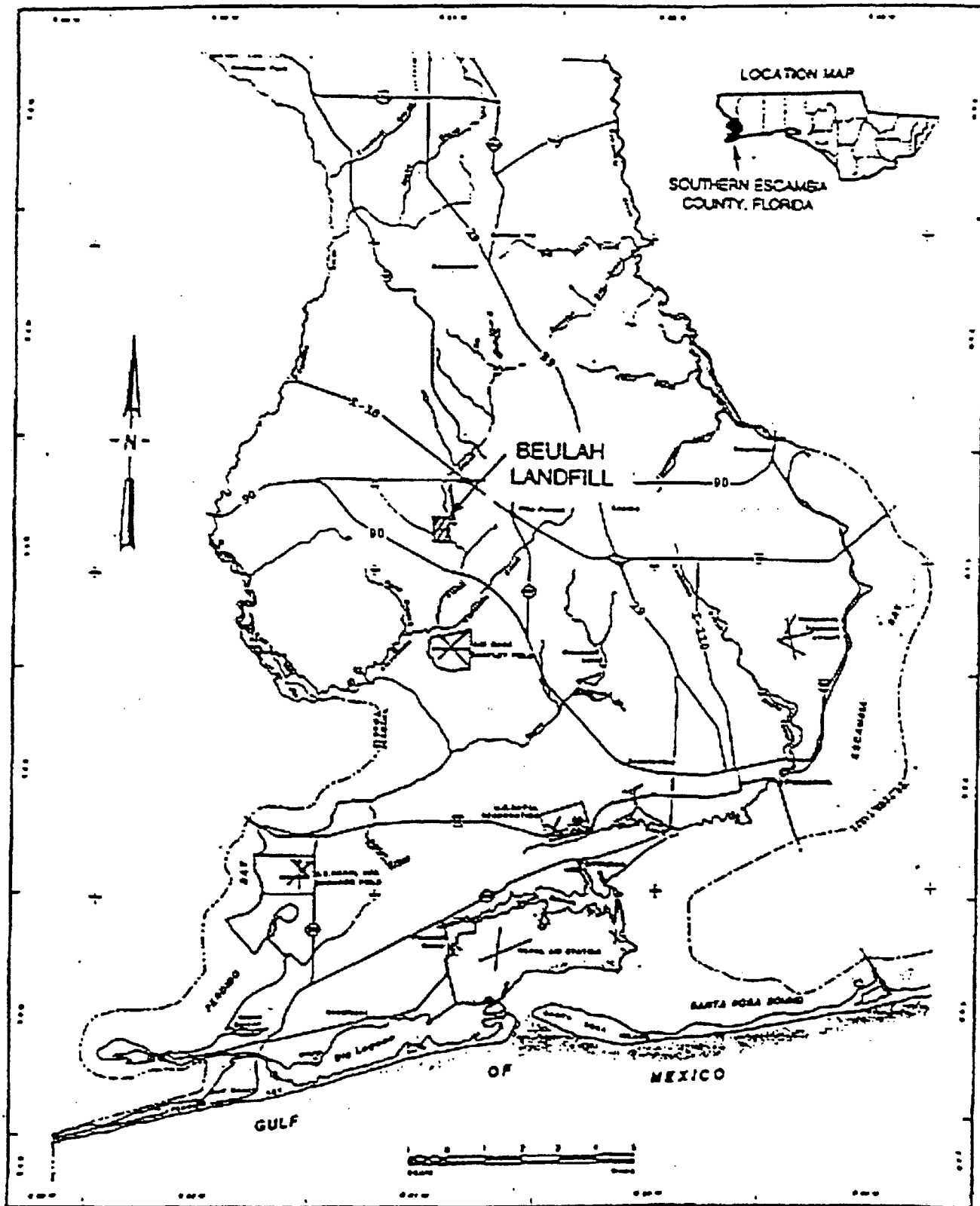


## **ATTACHMENTS**

## **ATTACHMENT 1**

### **SITE MAPS**

FIGURE 1  
SITE LOCATION MAP  
BEULAH LANDFILL SITE



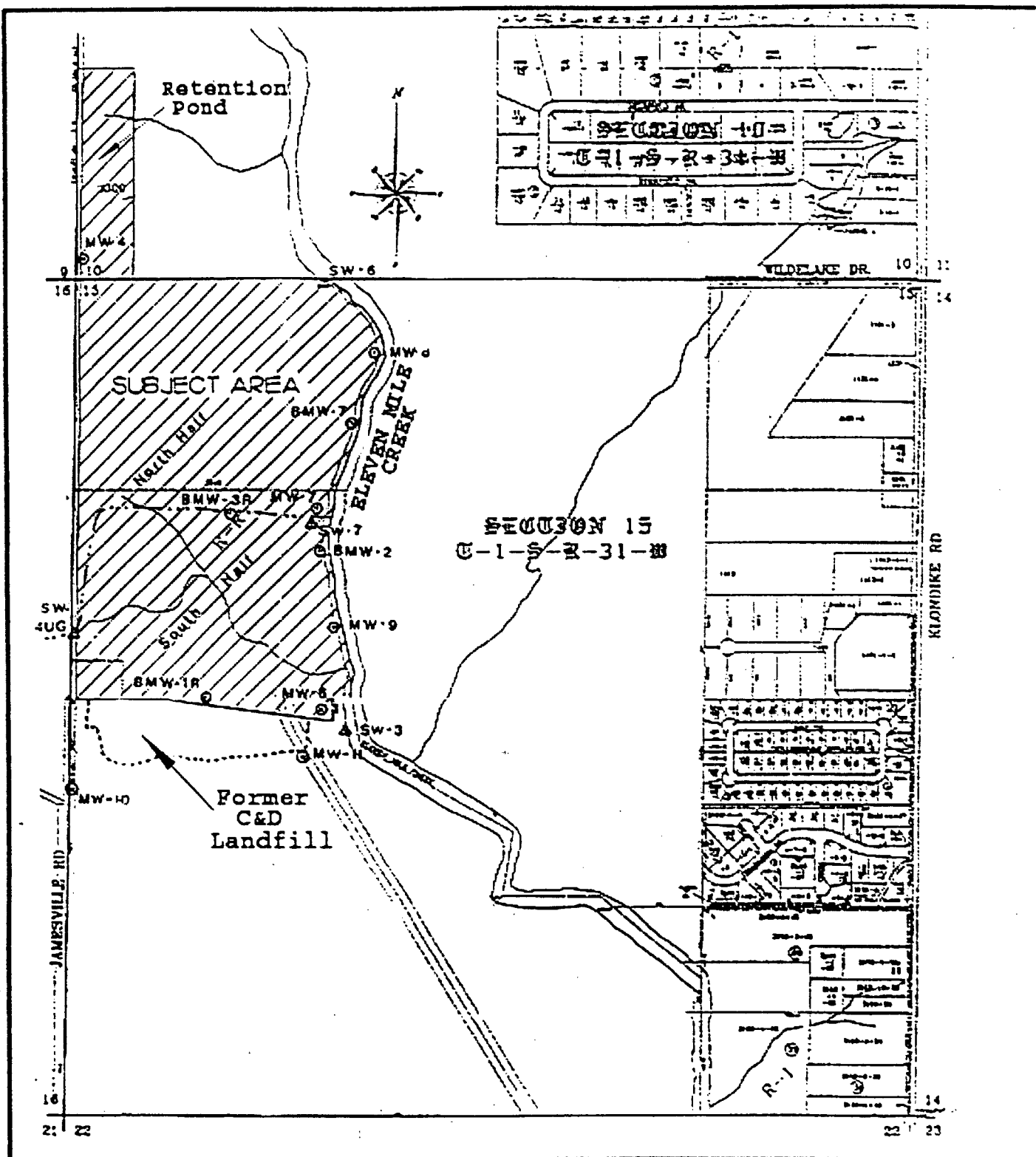
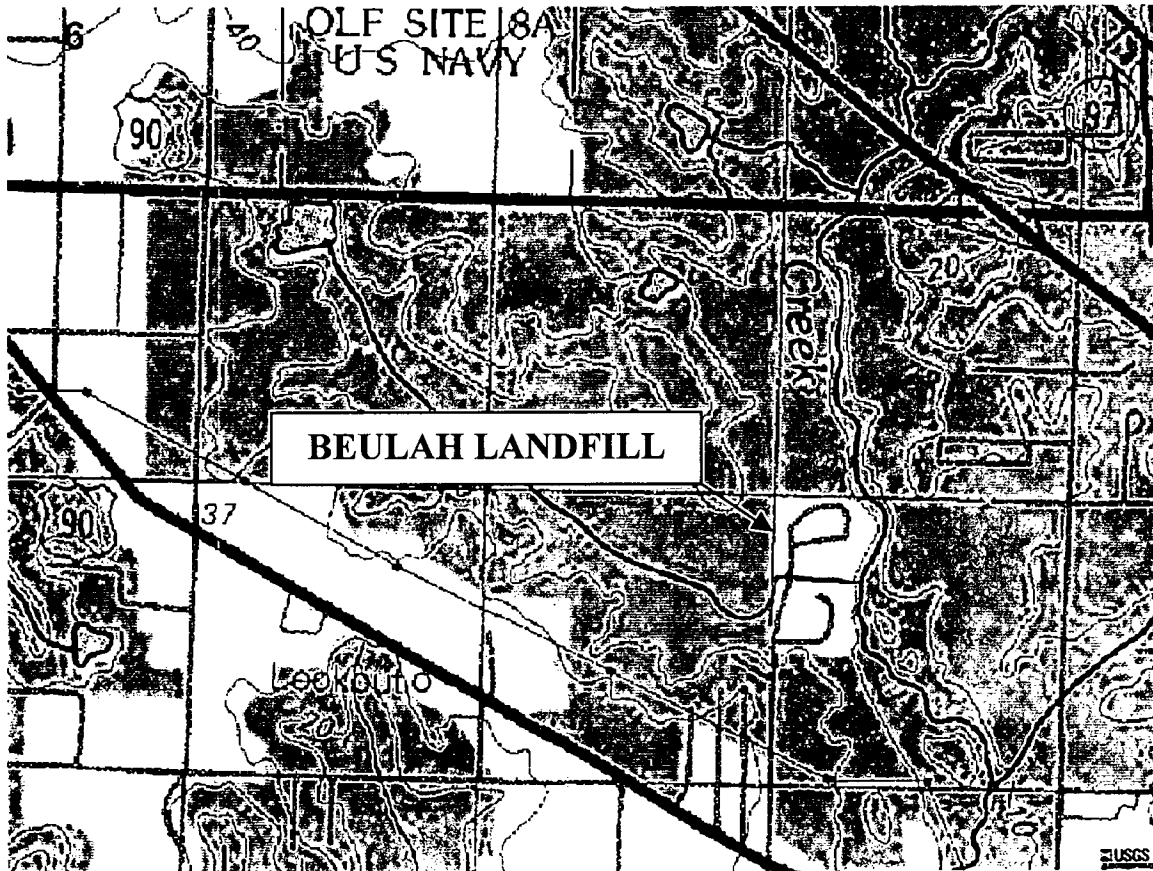


Figure 2  
Site Plan  
Beulah Landfill

PROJECT  
Beulah Landfill

# BEULAH LANDFILL TOPOGRAPHIC MAP



**ATTACHMENT 2**  
**LIST OF DOCUMENTS REVIEWED**

## **Documents Reviewed** (chronological order)

*Final Remedial Investigation Report, Beulah Landfill Superfund Site*  
Engineering Science, Inc., July 1993

*Site Review and Update – Beulah Landfill*  
U.S. Department of Health and Human Services, September 19, 1997

*Summary Report, Beulah Landfill, Water Quality Monitoring, Spring 1998 Semi-Annual Sampling*, Gallet & Associates, Inc., May 31, 1998.

*Florida Department of Environmental Protection – Solid Waste Management Facility Inspection Checklist*, June 11, 1998.

*Notice of Deletion*, United States Environmental Protection Agency, June 22, 1998.

*Five-Year Review Report – Beulah Landfill Site*  
Escambia County Department of Public Works – Solid Waste Division, September 16, 1998.

*Summary Report, Beulah Landfill, Water Quality Monitoring, Fall 1998 Semi-Annual Sampling*, Gallet & Associates, Inc., November, 1998.

*Two-Year Quality Report, Beulah Landfill Post-Closure Period*  
Gallet & Associates, Inc., December 31, 1998.

*Summary Report, Beulah Landfill, Water Quality Monitoring, Spring 1999 Semi-Annual Sampling*, Gallet & Associates, Inc., May 31, 1999.

*Summary Report, Beulah Landfill, Water Quality Monitoring, Fall 1999 Semi-Annual Sampling*, Gallet & Associates, Inc., November, 1999.

*Florida Department of Environmental Protection – Solid Waste Management Facility Inspection Checklist*, December 28, 1999.

*Summary Report, Beulah Landfill, Water Quality Monitoring, Spring 2000 Semi-Annual Sampling*, Gallet & Associates, Inc., May 31, 2000.

*Florida Department of Environmental Protection – Solid Waste Management Facility Inspection Checklist*, October, 2000.

*Summary Report, Beulah Landfill, Water Quality Monitoring, Fall 2000 Semi-Annual Sampling*, Gallet & Associates, Inc., November, 2000.

*Two-Year Quality Report, Beulah Landfill Post-Closure Period*  
Gallet & Associates, Inc., December 15, 2000.

*Summary Report, Beulah Landfill, Water Quality Monitoring, Spring 2001 Semi-Annual Sampling, Gallet & Associates, Inc., May 31, 2001.*

*Florida Department of Environmental Protection – Solid Waste Management Facility Inspection Checklist, August 16, 2001.*

*Summary Report, Beulah Landfill, Water Quality Monitoring, Fall 2001 Semi-Annual Sampling, Gallet & Associates, Inc., November 19, 2001.*

*Summary Report, Beulah Landfill, Water Quality Monitoring, Spring 2002 Semi-Annual Sampling, Gallet & Associates, Inc., May 31, 2002.*

*Two-Year Quality Report, Beulah Landfill Post-Closure Period  
Gallet & Associates, Inc., November, 2002.*

*Summary Report, Beulah Landfill, Water Quality Monitoring, Spring 2003 Semi-Annual Sampling, Gallet & Associates, Inc., May 30, 2003.*

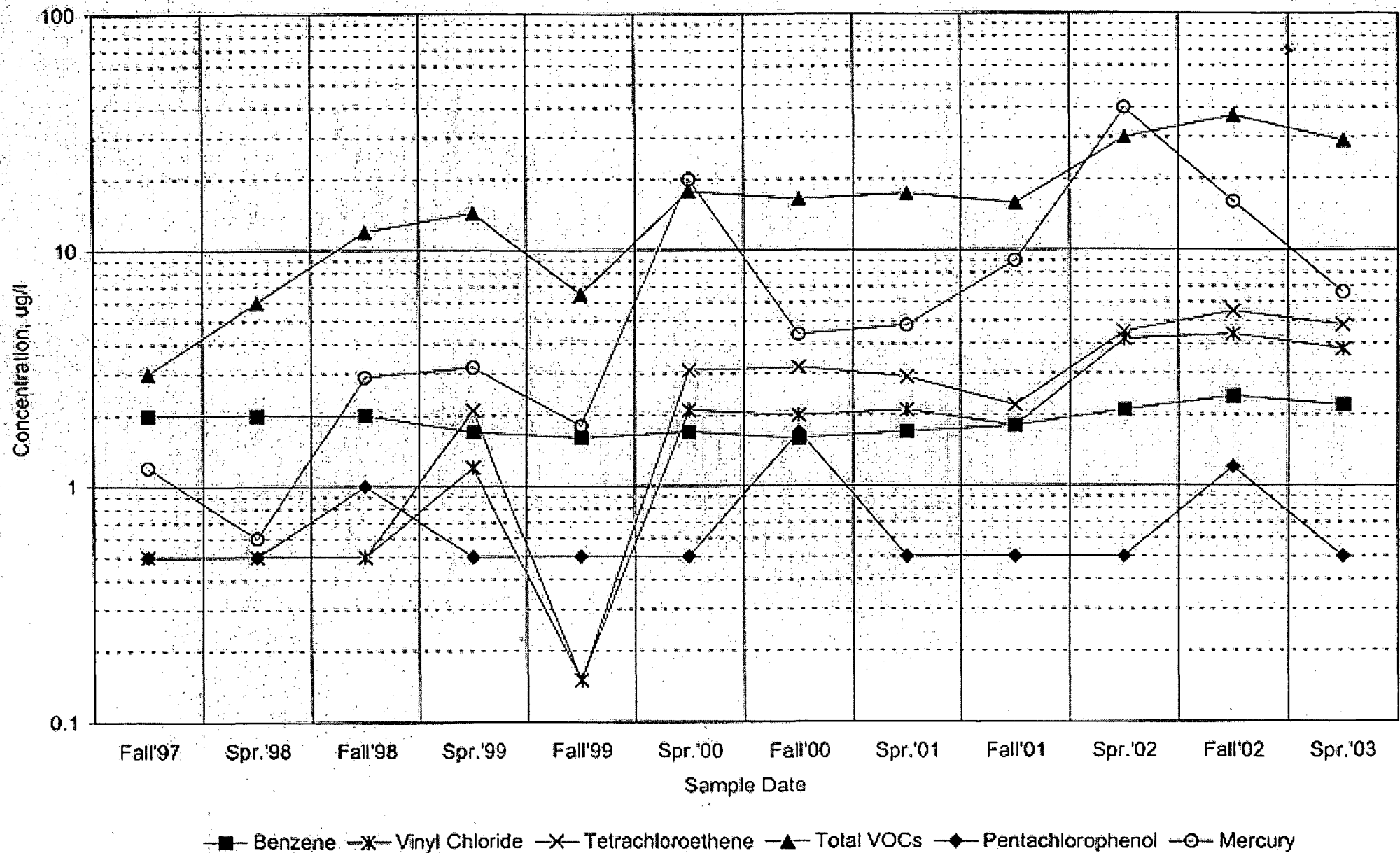


**ATTACHMENT 3**  
**LABORATORY ANALYTICAL DATA**

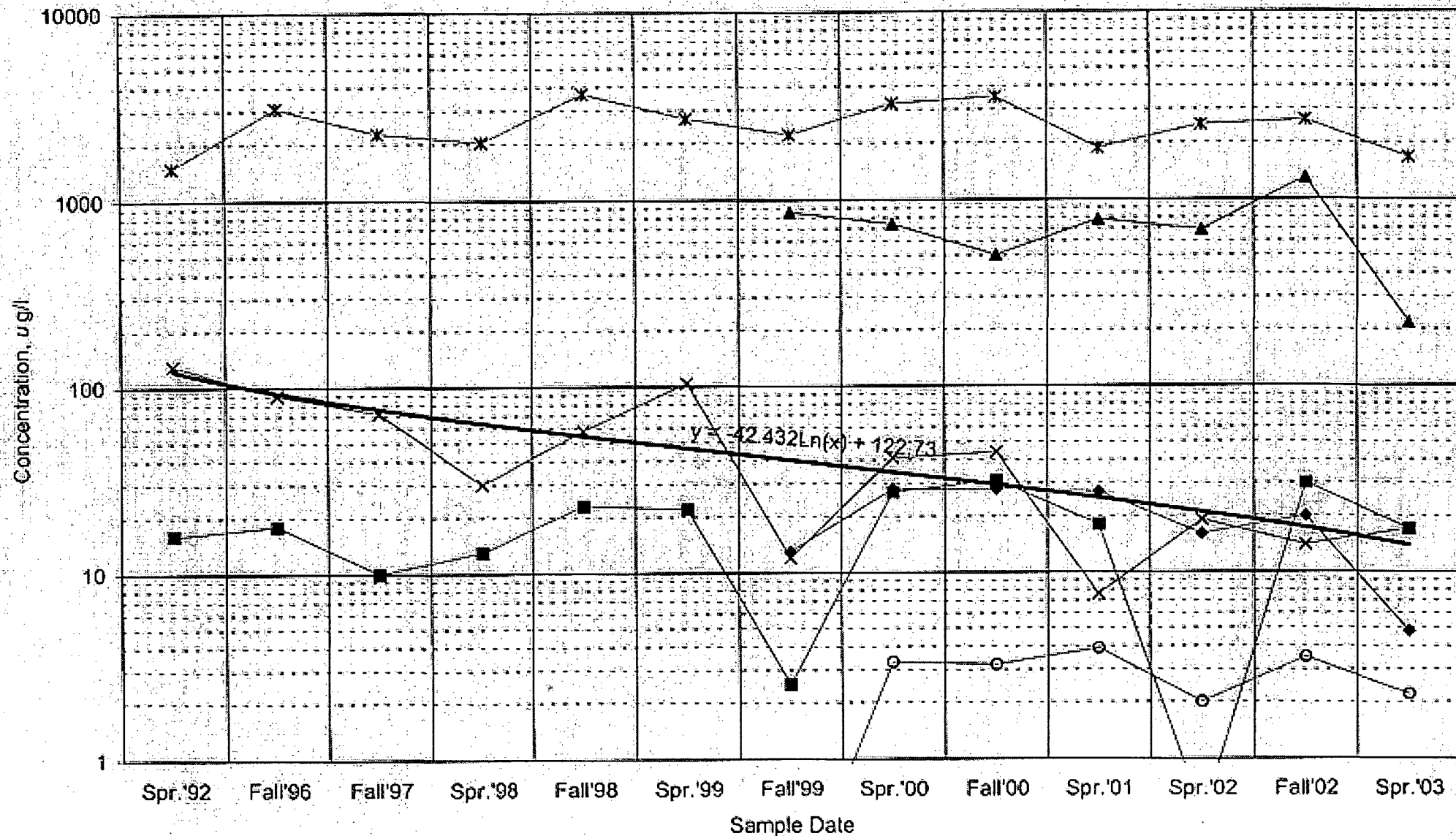
**Summary of Exceedances  
of Applicable Primary Drinking Water Standards  
1998 – 2003**

Sample Location	Contaminants	Date of Exceedance
BMW-1R	Benzene	Fall 1998, Spring 1999, Spring 2000, Fall 2000, Spring 2001, Fall 2001, Spring 2002, Fall 2002, Spring 2003
	Tetrachloroethene	Spring 2000, Fall 2000, Spring 2002, Spring 2003
	Vinyl Chloride	Spring 2000, Fall 2000, Spring 2001, Fall 2001, Spring 2002, Fall 2002, Spring 2003
	Pentachlorophenol	Fall 2000, Fall 2002
MW-6	Pentachlorophenol	Fall 1998, Spring 1999, Spring 2000, Spring 2001, Fall 2001, Spring 2002, Fall 2002, Spring 2003
MW-9	Benzene	Spring 2000, Fall 2001, Spring 2002, Spring 2003
	Pentachlorophenol	Fall 2002
SW-3	Pentachlorophenol	Spring 2000
SW-6	Pentachlorophenol	Spring 2000

ANALYTICAL HISTORY: BMW-1/1R  
BEULAH LANDFILL, ESCAMBA CO., FLORIDA  
(all values in ug/l)



ANALYTICAL HISTORY; MW-6 & MW-9  
BEULAH LANDFILL, ESCAMBIA CO., FLORIDA



■ Total BTEX, MW-6    x Total SVOC, MW-6    x PCP at MW-6    ▲ Total SVOC, MW-9  
 ◆ Total BTEX, MW-9    o Benzene, MW-9    — Log. (PCP at MW-6)

**ATTACHMENT 4**  
**SITE INSPECTION CHECK LIST**

<b>I. SITE INFORMATION</b>	
<b>Site Name:</b> Beulah Landfill	<b>Date of Inspection:</b> August 5, 2003
<b>Location and Region:</b> Pensacola, FL	<b>EPA ID:</b> FLD980494660
<b>Agency, office or company leading the five-year review:</b> U.S. Army Corps of Engineers	<b>Weather/temperature:</b> 90°F Partly Cloudy
<b>Remedy Includes (Check all that apply)</b> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Landfill cover/containment  <input type="checkbox"/> Access controls  <input type="checkbox"/> Institutional controls  <input type="checkbox"/> Groundwater pump and treatment  <input type="checkbox"/> Surface water collection and treatment  <input checked="" type="checkbox"/> Other <b>ROD (No Action)</b> Closure Permit includes GW monitoring, access control, and landfill cover.         </div> <div style="width: 50%;"> <input type="checkbox"/> Monitored natural attenuation  <input type="checkbox"/> Groundwater containment  <input type="checkbox"/> Vertical barrier walls         </div> </div>	
<input checked="" type="checkbox"/> Inspection team roster attached <input checked="" type="checkbox"/> Site map attached	
<b>II. INTERVIEWS (Check all that apply)</b>	
<b>1. O&amp;M Site Manager</b>  Interviewed <input checked="" type="checkbox"/> at site <input type="checkbox"/> at office <input checked="" type="checkbox"/> by phone   Phone no. <u>850-937-2159</u> Problems, suggestions; <input checked="" type="checkbox"/> Report attached _____ _____	
<b>2. O&amp;M Staff</b> <u>N/A</u>  Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone   Phone no. _____ Problems, suggestions; <input type="checkbox"/> Report attached _____ _____	
<b>3. Local regulatory authorities and response agencies</b> (i.e., State and Tribal Offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.  <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;">Agency: <u>Florida Department of Environmental Protection</u></div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;">Contact: <u>Brad Hartshorn</u></div> <div style="width: 30%;">Project Manager</div> <div style="width: 30%;">August 5, 2003</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div style="width: 30%;">Name</div> <div style="width: 30%;">Title</div> <div style="width: 30%;">Date</div> </div>	

Problems, suggestions: ☒ Report attached

## 4. Other Interviews:

## III. ON-SITE DOCUMENTS &amp; RECORD VERIFIED (Check all that apply)

## 1. O&amp;M Documents

☐ As-builts ☐ Readily available ☐ Up to date ☐ N/A  
☐ Maintenance Logs ☐ Readily available ☐ Up to date ☐ N/A

Remarks O&M records were provided for the year 2003. Prior records have not been examined.2. Site Specific Health and Safety Plan ☐ Readily available ☐ Up to date ☒ N/AContingency Plan/Emergency Response Plan ☐ Readily available ☐ Up to date  
☒ N/A

Remarks \_\_\_\_\_

3. O&M and OSHA Training Records ☐ Readily available ☐ Up to date ☒ N/A

Remarks \_\_\_\_\_

## 4. Permits and Service Agreements

☐ Air Discharge Permit ☐ Readily available ☐ Up to date ☒ N/A  
☐ Effluent discharge ☐ Readily available ☐ Up to date ☒ N/A  
☐ Waste disposal, POTW ☐ Readily available ☐ Up to date ☒ N/A  
☒ Other permits Closure ☒ Readily available ☐ Up to date ☐ N/A

Remarks: \_\_\_\_\_

## 5. Gas Generation Records

☒ Readily available ☒ Up to date ☐ N/A

Remarks: Vapor Monitoring is performed quarterly

6. **Settlement Monument Records**

☐ Readily available ☐ Up to date ☒ N/A

Remarks \_\_\_\_\_

7. **Groundwater Monitoring Records**

☒ Readily available ☒ Up to date ☐ N/A

Remarks: Groundwater monitoring is performed semi-annually.

8. **Leachate Extraction Records**

☐ Readily available ☐ Up to date ☒ N/A

Remarks \_\_\_\_\_

9. **Discharge Compliance Records**

☐ Air ☐ Readily available ☐ Up to date ☒ N/A

☐ Water (effluent) ☐ Readily available ☐ Up to date ☒ N/A

Remarks \_\_\_\_\_

**4. O&M COSTS**

1. **O&M Organization**

☐ State in-house

☐ Contractor for State

☒ PRP in-house

☐ Contractor for PRP

☐ Other \_\_\_\_\_

2. **O&M Cost Records**

☐ Readily available ☐ Up to date

☐ Funding mechanism/agreement in place

☐ Original O&M cost estimate:

☒ Breakdown attached

Remarks: Breakdown for the year 2003 is provided within the context of the report.

**V. ACCESS AND INSTITUTIONAL CONTROLS**



**A. Fencing**1. Fencing ☐ Location shown on map ☐ Gates secured ☐ N/ARemarks: *Fencing of the Beulah Landfill has not been completed at this time due to potential property acquisition and natural boundaries.***B. Other Access Restrictions**1. Signs and other security measures ☐ Location shown on map ☐ N/A

Remarks:

The front gate is clearly marked "No Trespassing".

**C. Institutional Controls (ICS)** ☒ N/A**D. General**1. **Vandalism/trespassing** ☐ Location shown on site map ☐ No vandalism evident

Remarks: The PRP has noticed evidence of trespassing and minor vandalism on the site.

2. **Land use changes on site** ☒ N/A

Remarks \_\_\_\_\_

3. **Land use changes off site** ☒ N/A

Remarks \_\_\_\_\_

**VI. GENERAL SITE CONDITIONS****A. Roads** ☒ Applicable ☐ N/ARemarks: The roads are in good condition.**B. Other Site Conditions** ☐ Applicable ☐ N/A

Remarks

<b>VII. LANDFILL COVERS</b> <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> Not Applicable		
<b>A. Landfill Surface</b>	<input checked="" type="checkbox"/> Applicable	<input type="checkbox"/> Not Applicable
<b>B. Benches</b>	<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> Not Applicable
<b>C. Letdown Channels</b>	<input checked="" type="checkbox"/> Applicable	<input type="checkbox"/> Not Applicable
<b>D. Cover Penetrations</b>	<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> Not Applicable
<b>E. Gas Collection and Treatment</b>	<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> Not Applicable
<b>F. Cover Drainage Layer</b>	<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> Not Applicable
<b>G. Detention/Sedimentation Ponds</b>	<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> Not Applicable
<b>H. Retaining Walls</b>	<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> Not Applicable
<b>I. Ponds/Off-Site Discharge</b>	<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> Not Applicable
<b>1. Siltation</b> <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Siltation not evident Remarks _____		
<b>2. Vegetative Growth</b> <input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A <input type="checkbox"/> Vegetation does not impede flow Remarks _____		
<b>3. Erosion</b> <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Erosion not evident Remarks _____		
<b>4. Discharge Structure</b> <input type="checkbox"/> Functioning <input checked="" type="checkbox"/> N/A Remarks _____		

<b>VIII. VERTICAL BARRIERS</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> Not Applicable
<b>IX. GROUNDWATER/SURFACE WATER REMEDIES</b>
<b>A. Groundwater extraction wells, pumps and pipelines</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> Not Applicable
<b>B. Surface water collection structures, pumps and pipelines</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> Not Applicable
<b>1. Collection Structures, Pumps and Electrical</b> <input type="checkbox"/> Good condition <input type="checkbox"/> Needs O&M Remarks _____
<b>2. Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances</b> <input type="checkbox"/> Good condition <input type="checkbox"/> Needs O&M Remarks _____
<b>3. Spare Parts and Equipment</b>  <input type="checkbox"/> Readily available <input type="checkbox"/> Good Condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided <input type="checkbox"/> N/A Remarks: _____
<b>C. Treatment System</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> Not Applicable
<b>D. Monitored Natural Attenuation</b>

**1. Monitoring Wells** (natural attenuation remedy)

- ☒ Functioning      ☒ Routinely sampled      ☐ Properly secured/locked  
☒ Good condition      ☒ All required wells located      ☐ Needs O&M      ☐ N/A

Remarks MW-6 is in need of a new padlock.

**X. OTHER REMEDIES**

- ☐ Applicable      ☒ Not Applicable

**XI. OVERALL OBSERVATIONS****A. Implementation of the Remedy**

The remedy has been implemented as instructed within the ROD. Groundwater contamination remain in excess of current FDEP compliance levels and a remediation plan is requested from ECDSW.

**B. Adequacy of O&M**

All O&M requirements are adequate for the site. Routine maintenance of the site should include an inspection of the monitor wells for vandalism and subsequent repair when necessary.

**C. Early Indicators of Potential Remedy Problems**

The early indicator of a potential issue that could lead to remedy failure or jeopardize the protectiveness is the contamination levels in excess of FDEP standards indicated in the monitor wells.

**D. Opportunities for Optimization**

Opportunities for optimization included in this review are the submittal of a Remedial Action Plan addressing groundwater contamination at BMW-1R, MW-6 and MW-9, and completion of the perimeter fencing.



PHOTOGRAPH 1. Entrance gate to Beulah Landfill



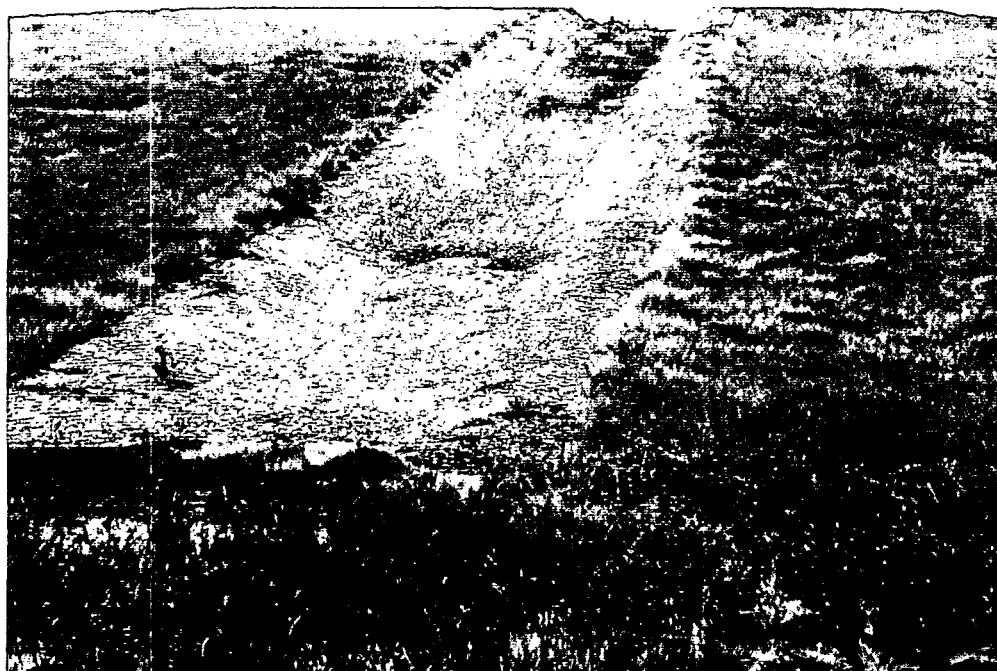
PHOTOGRAPH 2. Entrance road to Beulah Landfill.  
MW-10 shown in center with perimeter fencing and adjacent residences shown on left.



PHOTOGRAPH 3. View of northern half of Beulah Landfill.  
Gas vents (yellow) shown in circle.



PHOTOGRAPH 4. View of southern half of Beulah Landfill.



PHOTOGRAPH 5. Typical stormwater drainage flume from surface of landfill.



PHOTOGRAPH 6. View of surface water sampling location.



PHOTOGRAPH 7. View of surface water sampling location

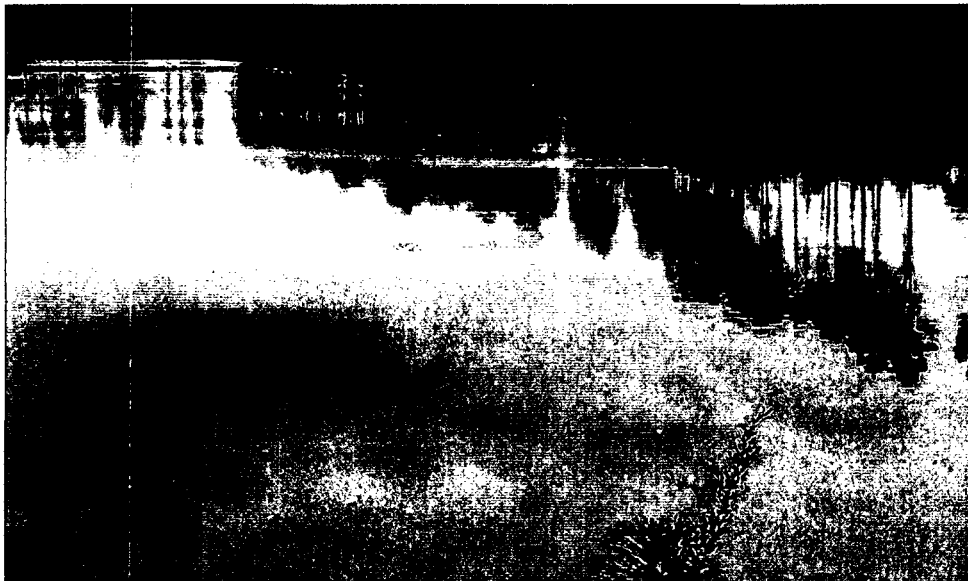


PHOTOGRAPH 8. Typical groundwater monitor well with steel posts, protective surface casing, pad, and security lock.





PHOTOGRAPH 9.  
View of MW-6 without lock.



PHOTOGRAPH 10. Stormwater retention pond.

**ATTACHMENT 6**  
**INTERVIEW RECORDS**

**INTERVIEW RECORD**

<b>Site Name:</b> Beulah Landfill		<b>EPA ID No.:</b> FLD980494660	
<b>Subject:</b> 2 <sup>nd</sup> Five-Year Review		<b>Time:</b> 1000 and 0845	<b>Date:</b> 8/05/03 and 08/22/03
<b>Type:</b> <input checked="" type="checkbox"/> Telephone <input checked="" type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
<b>Location of Visit:</b> Beulah Landfill			
<b>Contact Made By:</b>			
<b>Name:</b> Rhonda Capes		<b>Title:</b> Geologist	<b>Organization:</b> USACE
<b>Individual Contacted:</b>			
<b>Name:</b> Mr. Ron Hixson		<b>Title:</b> Environmental Specialist II	<b>Organization:</b> Escambia County Solid Waste
<b>Telephone No:</b> 850-937-2159		<b>Street Address:</b> 13009 Beulah Rd	
<b>Fax No:</b> 850-937-2152		<b>City, State, Zip:</b> Cantonment, FL 32533	
<b>E-Mail Address:</b> Ron_Hixson@co.escambia.fl.us			
<b>Summary Of Conversation</b>			
<p>In comparison to the condition of Beulah Landfill prior to initiation of closure, Mr. Hixson considers the site to be in excellent shape. Mr. Hixson's overall impression of the closure of Beulah Landfill is very good.</p> <p>Mr. Hixson was aware of only one complaint from the neighboring residents of Beulah Landfill. In 2003, neighboring residents complained of trespassers on the site shooting guns. Mr. Hixson stated that Escambia County Department Solid Waste (ECDSW) is currently in negotiations with International Paper Company to purchase a small parcel of land on the southern edge of the landfill. Until such time, fencing the southern perimeter of the landfill, and subsequently keeping trespassers off the site, is not likely. Mr. Hixson stated that trespassing and vandalism at the site are minor.</p> <p>Mr. Hixson stated that the cooperation between FDEP, EPA, and ECDSW is going well. His only recommendation for the site is to acquire the additional land and complete the fencing project.</p> <p>Mr. Hixson stated that he believes the selected remedy remains protective of human health and environment.</p>			

**INTERVIEW RECORD**

<b>Site Name:</b> Beulah Landfill		<b>EPA ID No.:</b> FLD980494660	
<b>Subject:</b> Second Five-Year Review		<b>Time:</b>	<b>Date:</b> 8/05/03 and 08/29/03
<b>Type:</b> <input checked="" type="checkbox"/> Telephone <input checked="" type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
<b>Location of Visit:</b>			
<b>Contact Made By:</b>			
<b>Name:</b> Rhonda Capes, P.G.		<b>Title:</b> Geologist	<b>Organization:</b> USACE
<b>Individual Contacted:</b>			
<b>Name:</b> Brad Hartshorn		<b>Title:</b> Env. Specialist III Waste Management Section	<b>Organization:</b> Florida Department of Environmental Protection
<b>Telephone No:</b> (850) 595-8360		<b>Street Address:</b> 160 Governmental Center	
<b>Fax No:</b> (850) 595-8097		<b>City, State, Zip:</b> Pensacola, FL 32501-5794	
<b>E-Mail Address:</b> brad.hartshorn@dep.state.fl.us			
<b>Summary Of Conversation</b>			
<p>Mr. Hartshorn's overall impression of the Beulah Landfill closure is that the project was well performed and to the standards indicated in the closure permit. When asked if he was aware of any complaints or violations requiring a response by FDEP, he stated that groundwater standards have not been met in a well adjacent to Elevenmile Creek, specifically for iron and PCP parameters.</p> <p>It is his impression that the selected remedy remains protective of the environment due to the fact that FDEP is monitoring the groundwater conditions and is requiring Escambia County Department of Solid Waste to submit a remediation plan addressing the contamination adjacent to Elevenmile Creek.</p> <p>Mr. Hartshorn further indicated that ECDSW's management have been very cooperative with FDEP.</p>			

**INTERVIEW RECORD**

<b>Site Name:</b> Beulah Landfill		<b>EPA ID No.:</b> FLD980494660	
<b>Subject:</b> Second Five-Year Review		<b>Time:</b> 1600	<b>Date:</b> 8/27/03
<b>Type:</b> <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
<b>Location of Visit:</b>			
<b>Contact Made By:</b>			
<b>Name:</b> Rhonda Capes		<b>Title:</b> Geologist	<b>Organization:</b> USACE
<b>Individual Contacted:</b>			
<b>Name:</b> Mr. Mike Kennedy		<b>Title:</b>	<b>Organization:</b> Florida Department of Env. Protection
<b>Telephone No:</b> 850-595-8360 ext. 1250		<b>Street Address:</b>	
<b>Fax No:</b>		<b>City, State, Zip:</b>	
<b>E-Mail Address:</b>			
<b>Summary Of Conversation</b>			
<p>Mr. Kennedy of FDEP was contacted during the search for relevant documents relating to the closure permit and the laboratory analyses required for the Beulah Landfill monitoring program.</p> <p>During the discussion, Mr. Kennedy stated that he did not feel that the selected remedy remains protective of the site. He stated that concentrations of PCP have been in excess of the standards for surface water in a monitor well adjacent Elevenmile Creek. He further mentioned that FDEP will require ESDSW to submit a Remedial Action Plan (RAP).</p>			